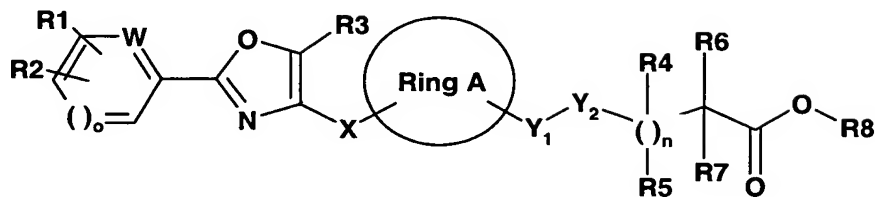


WHAT IS CLAIMED IS:

1. A compound having the formula I:



5

in which:

Ring A is a (C<sub>3</sub>-C<sub>8</sub>)-cycloalkanediyl ring or a (C<sub>3</sub>-C<sub>8</sub>)-cycloalkenediyl ring, wherein one or more carbon atoms of the (C<sub>3</sub>-C<sub>8</sub>)-cycloalkanediyl ring or the (C<sub>3</sub>-C<sub>8</sub>)-cycloalkenediyl ring may be replaced by oxygen atoms;

10

R1 and R2 are:

- (a) Independently of one another H, F, Cl, Br, CF<sub>3</sub>, OCF<sub>3</sub>, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, O-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, SCF<sub>3</sub>, SF<sub>5</sub>, OCF<sub>2</sub>-CHF<sub>2</sub>, (C<sub>6</sub>-C<sub>10</sub>)-aryl, (C<sub>6</sub>-C<sub>10</sub>)-aryloxy, OH, NO<sub>2</sub>; or
- (b) together with the phenyl, pyridine, 1H-pyrrole, thiophene or furan ring form fused, partially or unsaturated bicyclic (C<sub>6</sub>-C<sub>10</sub>)-aryl, (C<sub>5</sub>-C<sub>11</sub>)-heteroaryl;

15

20

R3 is:

H, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>3</sub>-C<sub>8</sub>)-cycloalkyl, (C<sub>1</sub>-C<sub>3</sub>)-alkyl-(C<sub>3</sub>-C<sub>8</sub>)-cycloalkyl, phenyl, (C<sub>1</sub>-C<sub>3</sub>)-alkyl-phenyl, (C<sub>5</sub>-C<sub>6</sub>)-heteroaryl, (C<sub>1</sub>-C<sub>3</sub>)-alkyl-(C<sub>5</sub>-C<sub>6</sub>)-heteroaryl, or (C<sub>1</sub>-C<sub>3</sub>)-alkyl fully or partially substituted by F;

25

W is:

- (a) is CH or N if o = 1, or
- (b) is O, S or NR<sub>10</sub> if o = 0;

30

X is (C<sub>1</sub>-C<sub>6</sub>)-alkanediyl, wherein one or more carbon atoms of the (C<sub>1</sub>-C<sub>6</sub>)-alkanediyl may be replaced by oxygen atoms;

Y1 is (CR<sub>13</sub>R<sub>14</sub>)<sub>p</sub>, wherein p is 1 or 2;

Y2 is CH<sub>2</sub>, O, S, SO, SO<sub>2</sub> or NR<sub>9</sub>;

n is 0-2;

5

R<sub>4</sub> is H, (C<sub>1</sub>-C<sub>6</sub>)-alkyl; F if Y<sub>2</sub> is not O; NR<sub>9</sub>;

R<sub>5</sub> is H, (C<sub>1</sub>-C<sub>6</sub>)-alkyl; F if Y<sub>2</sub> is not O; NR<sub>9</sub>;

10 R<sub>6</sub> is H, (C<sub>1</sub>-C<sub>6</sub>)-alkyl; or F if n is not 0;

R<sub>7</sub> is:

15 H, F (if n is not 0), (C<sub>1</sub>-C<sub>6</sub>)-alkoxy, (C<sub>2</sub>-C<sub>6</sub>)-alkenyl, (C<sub>2</sub>-C<sub>6</sub>)-alkynyl, (C<sub>3</sub>-C<sub>8</sub>)-cycloalkyl, (C<sub>1</sub>-C<sub>6</sub>)-alkyl that may be unsubstituted or substituted by one or more radicals selected from the group consisting of:  
hydroxyl, phenyl, (C<sub>5</sub>-C<sub>11</sub>)-heteroaryl, (C<sub>1</sub>-C<sub>6</sub>)-alkoxy and NR<sub>11</sub>R<sub>12</sub>, or  
phenyl that may be unsubstituted or substituted by one or more  
20 radicals from the group consisting of hydroxy, (C<sub>1</sub>-C<sub>6</sub>)-alkoxy, F and CF<sub>3</sub>,

with the proviso that R<sub>7</sub> is not NR<sub>11</sub>R<sub>12</sub> or (C<sub>1</sub>-C<sub>6</sub>)-alkoxy if R<sub>6</sub> = F;

25 R<sub>6</sub> and R<sub>7</sub> are together with the carbon atom that carries them (C<sub>3</sub>-C<sub>8</sub>)-cycloalkyl;

R<sub>8</sub> is H or (C<sub>1</sub>-C<sub>6</sub>)-alkyl;

R<sub>9</sub> is:

30 H, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>2</sub>-C<sub>6</sub>)-alkenyl, (C<sub>2</sub>-C<sub>6</sub>)-alkynyl, aryl-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, CO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, CO-(C<sub>6</sub>-C<sub>10</sub>)-aryl, CO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl-(C<sub>6</sub>-C<sub>10</sub>)-aryl, CO-(C<sub>5</sub>-C<sub>11</sub>)-heteroaryl, C(O)-O-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, C(O)-O-(C<sub>1</sub>-C<sub>6</sub>)-alkyl-(C<sub>6</sub>-C<sub>10</sub>)-aryl, C(O)-O-(C<sub>6</sub>-C<sub>10</sub>)-aryl, C(O)-O-(C<sub>5</sub>-C<sub>11</sub>)-heteroaryl, SO<sub>2</sub>-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, SO<sub>2</sub>-(C<sub>1</sub>-C<sub>6</sub>)-alkyl-(C<sub>6</sub>-C<sub>10</sub>)-aryl, SO<sub>2</sub>-(C<sub>1</sub>-C<sub>6</sub>)-alkyl-SO<sub>2</sub>-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, SO<sub>2</sub>-(C<sub>6</sub>-C<sub>10</sub>)-aryl, SO<sub>2</sub>-(C<sub>5</sub>-C<sub>11</sub>)-heteroaryl, wherein aryl or heteroaryl, or both may be  
35 unsubstituted or substituted by (C<sub>1</sub>-C<sub>6</sub>)-alkyl, O-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, F, Cl, CO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl;

R10 is H, (C<sub>1</sub>-C<sub>6</sub>)-alkyl or (C<sub>1</sub>-C<sub>6</sub>)-alkyl-phenyl;

R11 is H, (C<sub>1</sub>-C<sub>6</sub>)-alkyl or (C<sub>1</sub>-C<sub>6</sub>)-alkyl-phenyl;

5

R12 is H, (C<sub>1</sub>-C<sub>6</sub>)-alkyl or (C<sub>1</sub>-C<sub>6</sub>)-alkyl-phenyl;

R13 is H or (C<sub>1</sub>-C<sub>6</sub>)-alkyl; and

10 R14 is H or (C<sub>1</sub>-C<sub>6</sub>)-alkyl; or

a physiologically acceptable salt of the compound;

a solvate of the compound; or

a physiologically active derivative of the compound.

15

2. The compound of claim 1 in which

Ring A is (C<sub>3</sub>-C<sub>8</sub>)-cycloalkanediyl or (C<sub>3</sub>-C<sub>8</sub>)-cycloalkenediyl, wherein one carbon atom of the (C<sub>3</sub>-C<sub>8</sub>)-cycloalkanediyl ring or the (C<sub>3</sub>-C<sub>8</sub>)

20 cycloalkenediyl ring may be replaced by an oxygen atom; and

X is (C<sub>1</sub>-C<sub>6</sub>)-alkanediyl, wherein the C<sub>1</sub> or C<sub>2</sub> carbon atom (to Ring A) may be replaced by an oxygen atom.

25 3. The compound of Claim 1, in which

Ring A is cis-cyclohexane-1,3-diyl;

R1 and R2 are:

independently of one another H, F, CF<sub>3</sub>, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, O-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, or  
30 phenyl; or

together with a phenyl ring of the compound form a naphthyl;

R3 is (C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>3</sub>-C<sub>8</sub>)-cycloalkyl, or phenyl;

W is:

CH if o = 1, or

35 O or S if o = 0;

X is CH<sub>2</sub>-O or CH<sub>2</sub>-O-CH<sub>2</sub>;

Y1 is CH<sub>2</sub>;

Y2 is CH<sub>2</sub>, O, S, SO, SO<sub>2</sub> or NR<sub>9</sub>;

n is 0;

5 R4 is H;

R5 is H;

R6 is H, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, or benzyl;

R7 is H, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>3</sub>-C<sub>6</sub>)-cycloalkyl, phenyl, or benzyl,

10 R6 and R7 together with the carbon atom that carries them are (C<sub>3</sub>-C<sub>6</sub>)-cycloalkyl;

R8 is H; and

R9 is:

H, or

(C<sub>1</sub>-C<sub>6</sub>)-alkyl, which may be unsubstituted or substituted by:

15 (C<sub>3</sub>-C<sub>6</sub>)-cycloalkyl, phenyl, (C<sub>5</sub>-C<sub>6</sub>)-heteroaryl; CO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, CO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl-phenyl, CO-phenyl, C(O)-O-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, CO-NH-phenyl, SO<sub>2</sub>-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, SO<sub>2</sub>-(C<sub>1</sub>-C<sub>4</sub>)-alkyl-SO<sub>2</sub>-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, SO<sub>2</sub>-tolyl, or a combination thereof,

20 wherein the phenyl of the substituent for its part may be substituted by O-(C<sub>1</sub>-C<sub>3</sub>)-alkyl;

a physiologically acceptable salt of the compound;

a solvate of the compound; or

a physiologically acceptable derivative of the compound.

25

4. A pharmaceutical composition comprising the compound of Claim 1 and a pharmaceutically acceptable carrier.

30 5. The pharmaceutical composition of Claim 4, further comprising an active compound for treating and/or preventing a metabolic disorder or a disease associated with the metabolic disorder.

6. The pharmaceutical composition of Claim 4, further comprising an antidiabetic.
7. The pharmaceutical composition of Claim 4, further comprising a lipid modulator.
8. A method for treating and/or preventing a disorder of fatty acid metabolism or glucose utilization in a patient, comprising administering a therapeutically effective amount of the compound of Claim 1 to the patient.
9. A method for treating and/or preventing a disorder involving insulin resistance in a patient, comprising administering a therapeutically effective amount of the compound of Claim 1 to the patient.
10. A method for treating and/or preventing diabetes mellitus and its sequelae in a patient, comprising administering a therapeutically effective amount of the compound of Claim 1 to the patient.
11. A method for treating and/or preventing dyslipidemias and their sequelae in a patient, comprising administering a therapeutically effective amount of the compound of Claim 1 to the patient.
12. A method for treating and/or preventing a physiological state associated with a metabolic syndrome in a patient, comprising administering a therapeutically effective amount of the compound of Claim 1 to the patient.
13. The method of Claim 8, further comprising administering the patient a therapeutically effective amount of a second active compound for treating and/or preventing disorders of the fatty acid metabolism and glucose utilization disorders.
14. The method of Claim 9, further comprising administering to the patient a therapeutically effective amount of a second compound for treating and/or preventing a disorder in which insulin resistance is involved.
15. A process for preparing a pharmaceutical composition of Claim 4, comprising the steps of:
  - (a) mixing the compound with the pharmaceutically acceptable carrier to

form a mixture; and

(b) placing the mixture into a form that is suitable for administration.

5 16. The compound of Claim 2, in which

Ring A is cis-cyclohexane-1,3-diyl;

R1 and R2 are:

10 independently of one another H, F, CF<sub>3</sub>, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, O-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, or phenyl; or

together with a phenyl ring of the compound form a naphthyl;

R3 is (C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>3</sub>-C<sub>8</sub>)-cycloalkyl, or phenyl;

W is:

CH if o = 1, or

15 O or S if o = 0;

X is CH<sub>2</sub>-O or CH<sub>2</sub>-O-CH<sub>2</sub>;

Y1 is CH<sub>2</sub>;

Y2 is CH<sub>2</sub>, O, S, SO, SO<sub>2</sub> or NR<sub>9</sub>;

n is 0;

20 R4 is H;

R5 is H;

R6 is H, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, or benzyl;

R7 is H, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>3</sub>-C<sub>6</sub>)-cycloalkyl, phenyl, or benzyl,

25 R6 and R7 together with the carbon atom that carries them are (C<sub>3</sub>-C<sub>6</sub>)-cycloalkyl;

R8 is H; and

R9 is:

H, or

(C<sub>1</sub>-C<sub>6</sub>)-alkyl, which may be unsubstituted or substituted by:

30 (C<sub>3</sub>-C<sub>6</sub>)-cycloalkyl, phenyl, (C<sub>5</sub>-C<sub>6</sub>)-heteroaryl; CO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, CO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl-phenyl, CO-phenyl, C(O)-O-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, CO-NH-phenyl, SO<sub>2</sub>-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, SO<sub>2</sub>-(C<sub>1</sub>-C<sub>4</sub>)-alkyl-

SO<sub>2</sub>-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, SO<sub>2</sub>-tolyl, or a combination thereof,  
wherein the phenyl of the substituent for its part may be  
substituted by O-(C<sub>1</sub>-C<sub>3</sub>)-alkyl;

- 5 a physiologically acceptable salt of the compound;  
a solvate of the compound; or  
a physiologically acceptable derivative of the compound.

10 17. A method for treating and/or preventing a disorder of fatty acid  
metabolism or glucose utilization in a patient, comprising administering a  
therapeutically effective amount of the compound of Claim 2 to the patient.

15 18. A method for treating and/or preventing a disorder involving insulin  
resistance in a patient, comprising administering a therapeutically effective  
amount of the compound of Claim 2 to the patient.

20 19. A method for treating and/or preventing diabetes mellitus and its  
sequelae in a patient, comprising administering a therapeutically effective  
amount of the compound of Claim 2 to the patient.

20. A method for treating and/or preventing dyslipidemias and their  
sequelae in a patient, comprising administering a therapeutically effective  
amount of the compound of Claim 2 to the patient.

25 21. A method for treating and/or preventing a physiological state  
associated with a metabolic syndrome in a patient, comprising  
administering a therapeutically effective amount of the compound of Claim  
2 to the patient.

30 22. The method of Claim 17, further comprising administering the patient  
a therapeutically effective amount of a second active compound for treating  
and/or preventing disorders of the fatty acid metabolism and glucose  
utilization disorders.

35 23. The method of Claim 18, further comprising administering to the  
patient a therapeutically effective amount of a second compound for

treating and/or preventing a disorder in which insulin resistance is involved.

24. A pharmaceutical composition comprising the compound of Claim 2 and a pharmaceutically acceptable carrier.

5

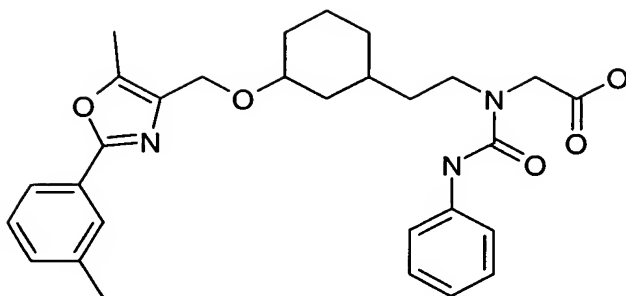
25. A pharmaceutical composition comprising the compound of Claim 3 and a pharmaceutically acceptable carrier.

26. A pharmaceutical composition comprising the compound of Claim 16 and a pharmaceutically acceptable carrier.

10

15





cis/racemate

C<sub>29</sub>H<sub>35</sub>N<sub>2</sub>O<sub>5</sub> (505.6), MS(ESI): 506 (M+H)

- 5 The present invention is not to be limited in scope by the specific  
embodiments described herein. Indeed, various modifications of the  
invention in addition to those described herein will become apparent to  
those skilled in the art from the foregoing description and the  
accompanying figures. Such modifications are intended to fall within the  
10 scope of the appended claims.

Various publications are cited herein, the disclosures of which are  
incorporated by reference in their entireties.